

Claims:

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1. A module for screening or diverting particulate material comprising either one of a screening member having an array of sieve apertures of a predetermined size defined therein for allowing particulate material up to the predetermined size to pass through the module or a diverting member for redirecting the flow path of the said particulate material, the screening or diverting member including a frame engagement member for interlockingly mounting the screening or diverting member onto a reinforcing support frame such that the screening or diverting member is readily attachable to and detachable therefrom, and such that particulate material passing through the screening member passes through the reinforcing support frame, the screening or diverting member being further interlockingly mountable onto a plurality of posts such that the screening or diverting member is readily detachable therefrom.
- 15 2. A module according to claim 1, wherein said screening or diverting member and said frame are configured to mate with a portion of each of said posts by snap-fit engagement.
- 20 3. A module according to claim 1, wherein said screening or diverting member comprises a substantially rectangular shape having a plurality of corners, and wherein post engagement members are located at each of the corners of the screening or diverting member for interlockingly mounting said screening or diverting member to each of said posts.
- 25 4. A module according to claim 1, wherein the frame engagement member comprises a detent extending from a lower surface of the screening or diverting member for readily and interlockingly mounting the screening or diverting member onto said frame.
- 30 5. A module according to claim 1, wherein at least a portion of a surface of said frame engagement member includes a gripping surface for engaging a complementary gripping surface on an engagement surface of said frame, thereby providing increased frictional mating engagement between said screening or diverting member and said frame.

6. A module according to claim 1, wherein each of said posts is joined to a mounting piece.

7. A module according to claim 6, wherein said mounting piece comprises a structural bar, a rod, or a tube.

5 8. A module according to claim 1, wherein each said post is mounted to an underlying support member of a deck assembly.

9. A module according to claim 1, which is formed of at least one polymeric material.

10 10. A module according to claim 1, wherein at least one frame is formed of a metal material or a polymeric material.

11. A module according to claim 1, wherein each of the posts includes at least one of a slot into which at least one post engagement member located on a corner of each said module is interlockingly engaged, and wherein each of the posts further comprises at least one frame slot within which a corner of each said frame is readily and interlocking mounted.

15 12. A module according to claim 11, wherein said frame slot is arcuate-shaped.

13. A module according to claim 1, wherein each of said posts comprises at least one of a slot or a recess for interlockingly engaging with said module, and 20 at least one frame slot is disposed within said posts.

14. A module according to claim 1, wherein at least one said frame has a substantially rectangular-shaped perimeter including at least one arcuate-shaped corner.

15. A module according to claim 1, wherein at least one said frame 25 includes at least one laterally extending bracing member for maintaining the structural integrity of said frame.

16. A module according to claim 1, wherein said screening or diverting member defines a plurality of receptacles, each receptacle receiving and retaining a portion of each of said posts.

17. A module according to claim 1, which comprises a frame engagement member extending from a lower surface thereof for readily and interlockably mounting said module onto at least one said frame.

18. A module according to claim 1, which comprises a non-reinforced module for screening or diverting particulate material.

19. A module according to claim 1, wherein said reinforcing support frame is not readily detachable from said screening or diverting module.

*Surfay* 20. A module according to claim 1, wherein each of the posts includes at least one recess into which at least one post engagement member located on a corner of each said module is interlockingly engaged, and wherein each of the posts further comprises at least one frame slot within which a corner of each said frame is readily and interlocking mounted.

21. A method for producing a module for screening or diverting particulate material, comprising:

15 forming a module comprising either one of a screening member having an array of sieve apertures of a predetermined size defined therein for allowing particulate material up to the predetermined size to pass through the module and a diverting member for redirecting the flow path of the said particulate material; and  
20 configuring said screening or diverting module for interlockingly and detachably mountability onto a reinforcing support frame and onto a plurality of posts which removably and interlockingly support a reinforcing support frame, said module being disposable over at least a portion of at least one of the posts, the module being positionable on the reinforcing support frame so that particulate material passing through the screening module passes through the reinforcing support frame.

25 22. A method according to claim 21, wherein said screening or diverting member and said frame are configured to mate with a portion of each of said posts by snap-fit engagement.

23. A method according to claim 21, wherein said screening or diverting member comprises a substantially rectangular shape having a plurality of corners, and wherein post engagement members are located at each of the corners of the

screening or diverting member for interlockingly mounting said screening or diverting member to each of said posts.

24. A method according to claim 21, wherein the frame engagement member comprises a detent extending from a lower surface of the screening or diverting member for readily and interlockingly mounting the screening or diverting member onto said frame.

25. A method according to claim 21, wherein at least a portion of a surface of said frame engagement member includes a gripping surface for engaging a complementary gripping surface on an engagement surface of said frame, thereby providing increased frictional mating engagement between said screening or diverting member and said frame.

10 26. A method according to claim 21, wherein each of said posts is joined to a mounting piece.

15 27. A method according to claim 26, wherein each said mounting piece comprises a structural bar, a rod, or a tube.

28. A method according to claim 21, wherein each said post is mounted to an underlying support member of a deck assembly.

29. A method according to claim 21, which is formed of at least one polymeric material.

20 30. A method according to claim 21, wherein at least one frame is formed at least one of a metal and a polymeric material.

31. A method according to claim 21, wherein each of the posts includes at least one of a slot into which at least one post engagement member located on a corner of each said module is interlockingly engaged, and wherein each of the 25 posts further comprises at least one frame slot within which a corner of each said frame is readily and interlocking mounted.

32. A method according to claim 21, wherein said frame slot is arcuate-shaped.

33. A method according to claim 21, wherein each of said posts comprises at least one of a slot or a recess for interlockingly engaging with said module, and 30 at least one frame slot is disposed within said posts.

34. A method according to claim 21, wherein at least one said frame has a substantially rectangular-shaped perimeter including at least one arcuate-shaped corner.

35. A method according to claim 21, wherein at least one said frame includes at least one laterally extending bracing member for maintaining the structural integrity of said frame.

36. A method according to claim 21, wherein said screening or diverting member defines a plurality of receptacles, each receptacle receiving and retaining a portion of each of said posts.

10 37. A method according to claim 21, which comprises a frame engagement member extending from a lower surface thereof for readily and interlockably mounting said method onto at least one said frame.

38. A method according to claim 21, which comprises a non-reinforced screening or diverting module.

15 39. A method according to claim 21, wherein said reinforcing support frame is not readily detachable from said screening or diverting module.

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Ctry* 40. A method according to claim 1, wherein each of the posts includes at least one of a recess into which at least one post engagement member located on a corner of each said module is interlockingly engaged, and wherein each of the 20 posts further comprises at least one frame slot within which a corner of each said frame is readily and interlockingly mounted.

41. A support frame for reinforcing a module for screening or diverting particulate material, comprising a support frame member including an engagement surface for interlockingly engaging with both said module and with a plurality of 25 posts, said posts supporting both said module and said support frame.

42. The support frame according to claim 41 wherein the engagement surface comprises a gripping surface for frictionally engaging with a corresponding gripping surface on said screening or diverting module.

43. A post for use in a system for separating or diverting particulate 30 material, comprising:

a first slot for removably and interlockingly supporting a reinforcing frame member in said system; and

a second slot for removably and interlockingly supporting a module for screening or diverting particulate material in said system.

5 44. A post according to claim 43, which comprises a head portion, and said first slot comprises a plurality of slots formed therein, extending from one side of the head to the other, said slots configured to engage a post engagement member from at least one screening or diverting modules.

10 45. A post according to claim 44, wherein said slots meet at substantially right angles at approximately the center of the head.

46. A post according to claim 43, wherein said first slot comprises a head portion, and said second slot comprises a slot located beneath the head, said slot being configured to receivingly engage at least one reinforcing support frame.

15 47. A post according to claim 43, wherein the second slot is configured to receivingly engage a plurality of said reinforcing support frames.

48. A post according to claim 43, wherein the first and second slots formed in the post are further configured to mate with the respective support frames and modules in snap-engagement.

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